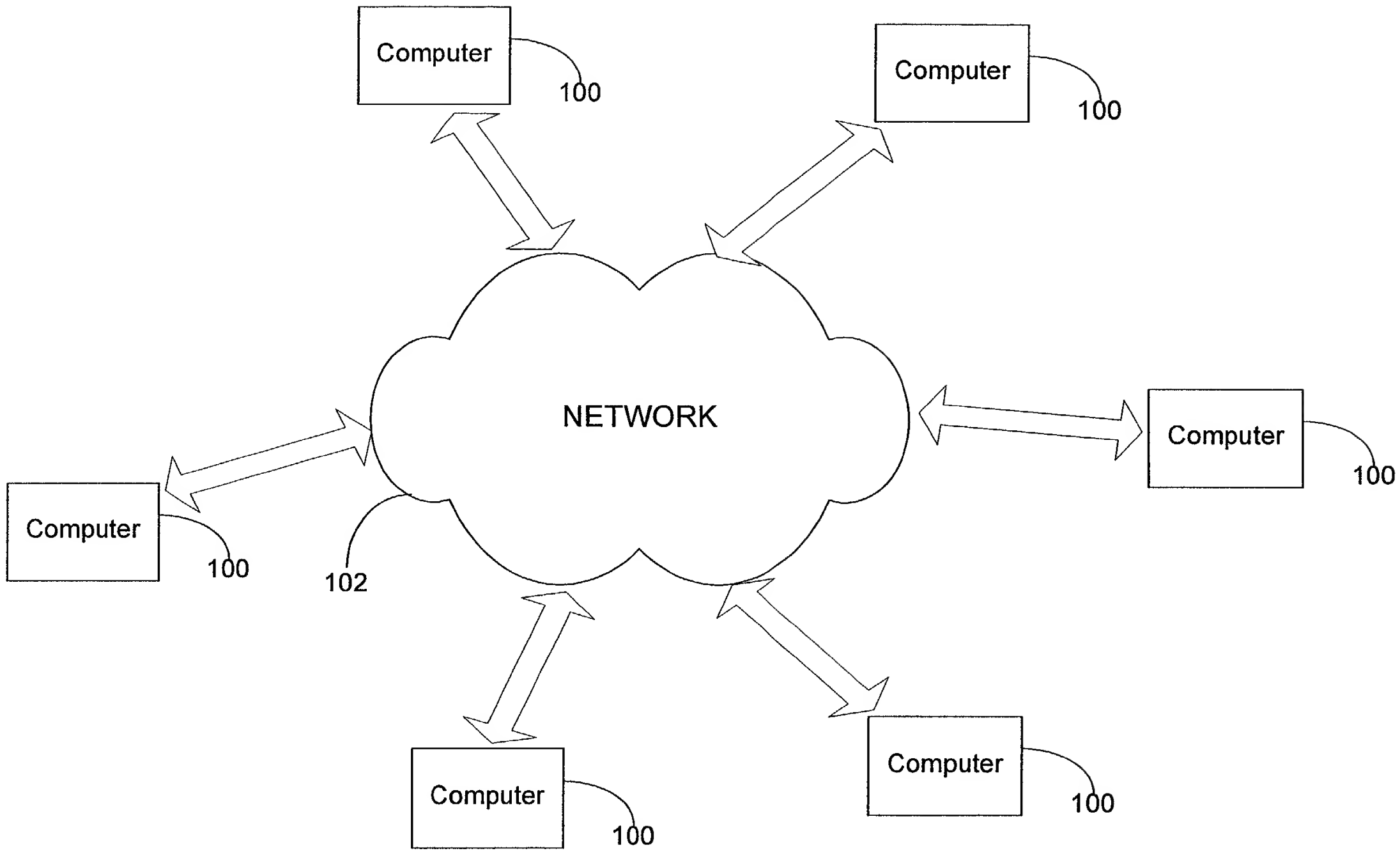

Computer
100
Computer
100
NETWORK
Computer
100
Computer
100
102
Computer
100
Computer
100

FIG. 1

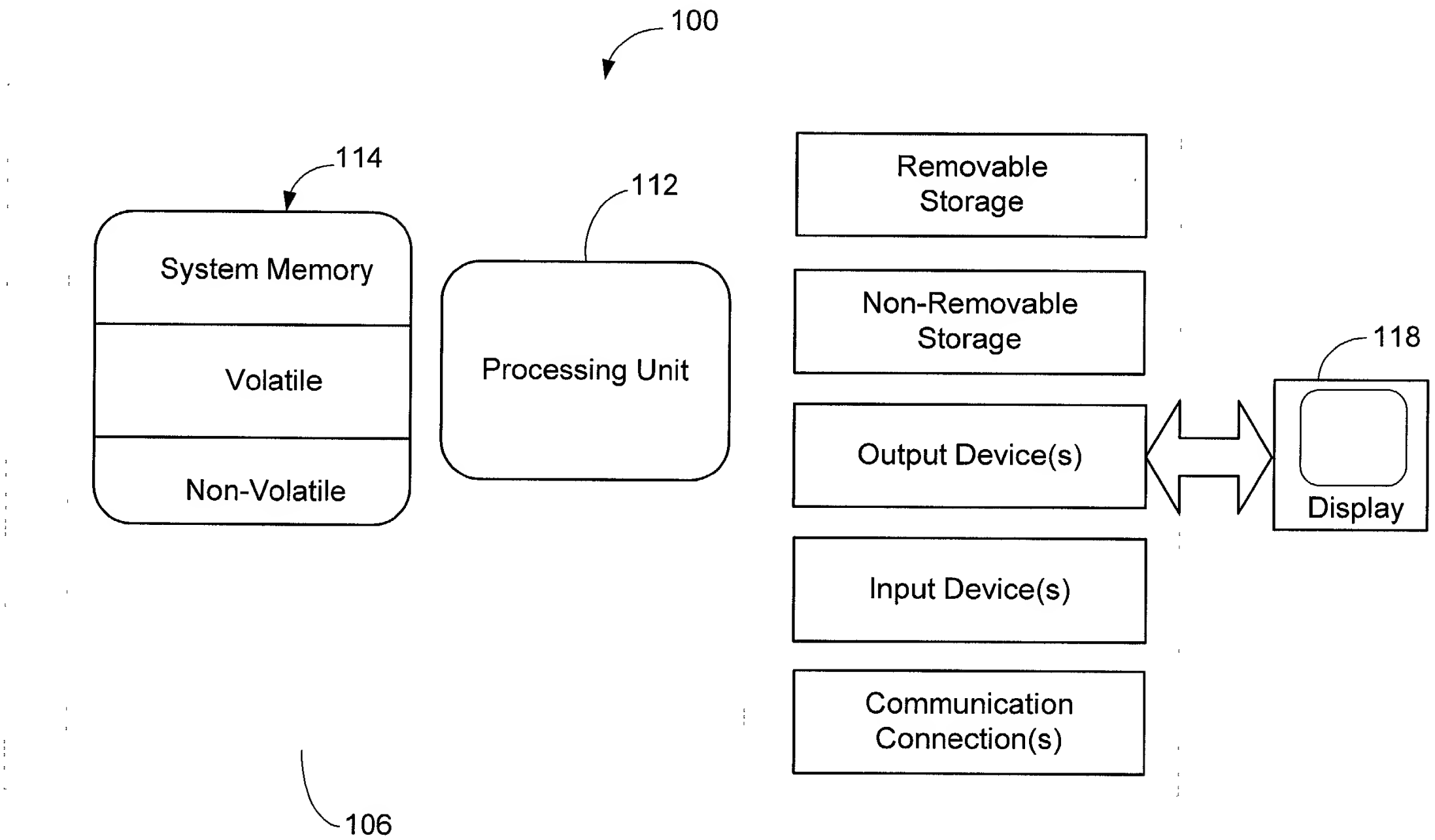

100
114
System Memory
Volatile
Non-Volatile
112
Processing Unit
Removable Storage
Non-Removable Storage
Output Device(s)
Input Device(s)
Communication Connection(s)
118
Display
106

FIG. 2

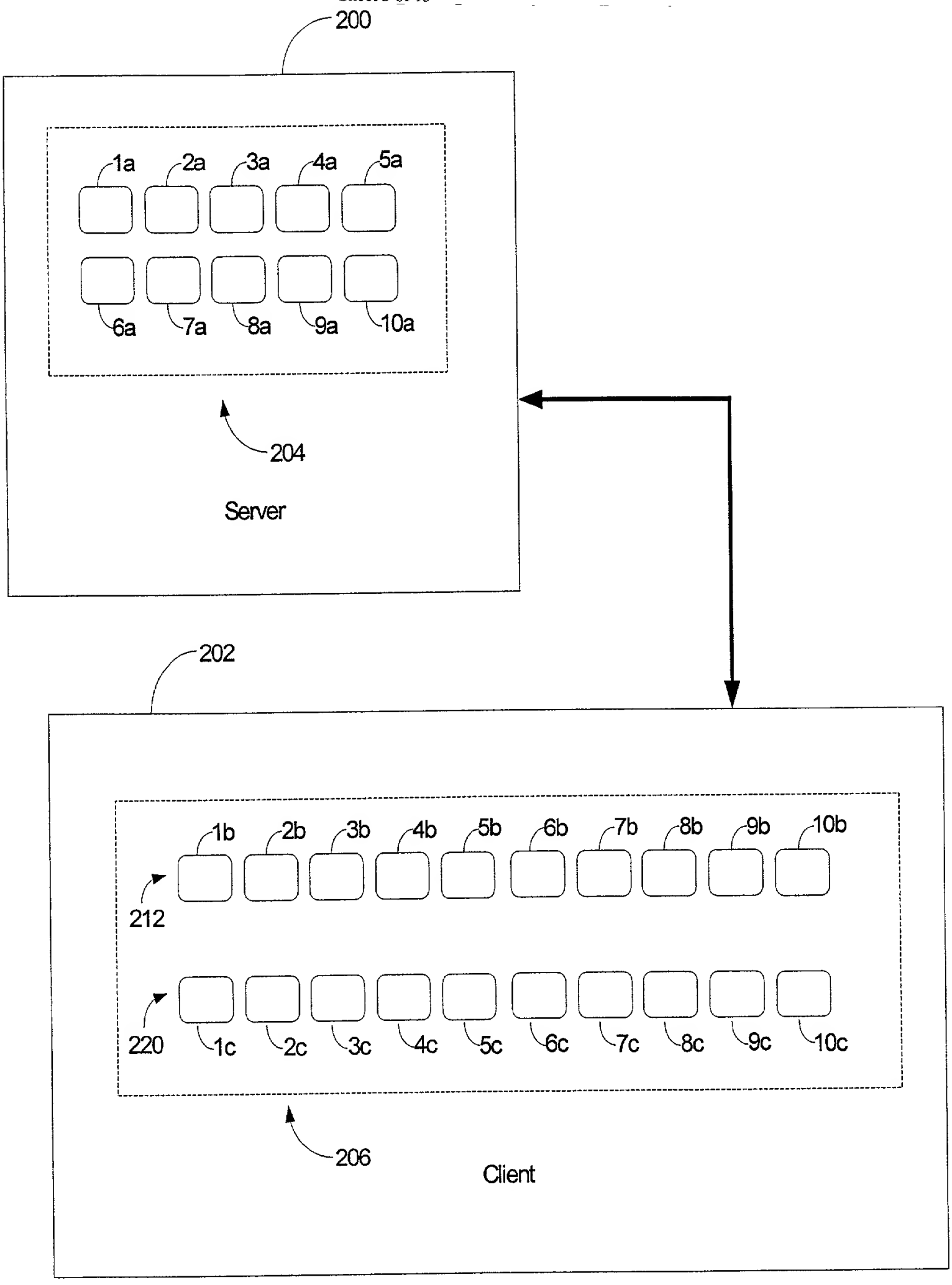

200
1a
2a
3a
4a
5a
6a
7a
8a
9a
10a
204
Server
202
1b
2b
3b
4b
5b
6b
7b
8b
9b
10b
212
220
1c
2c
3c
4c
5c
6c
7c
8c
9c
10c
206
Client

FIG. 3

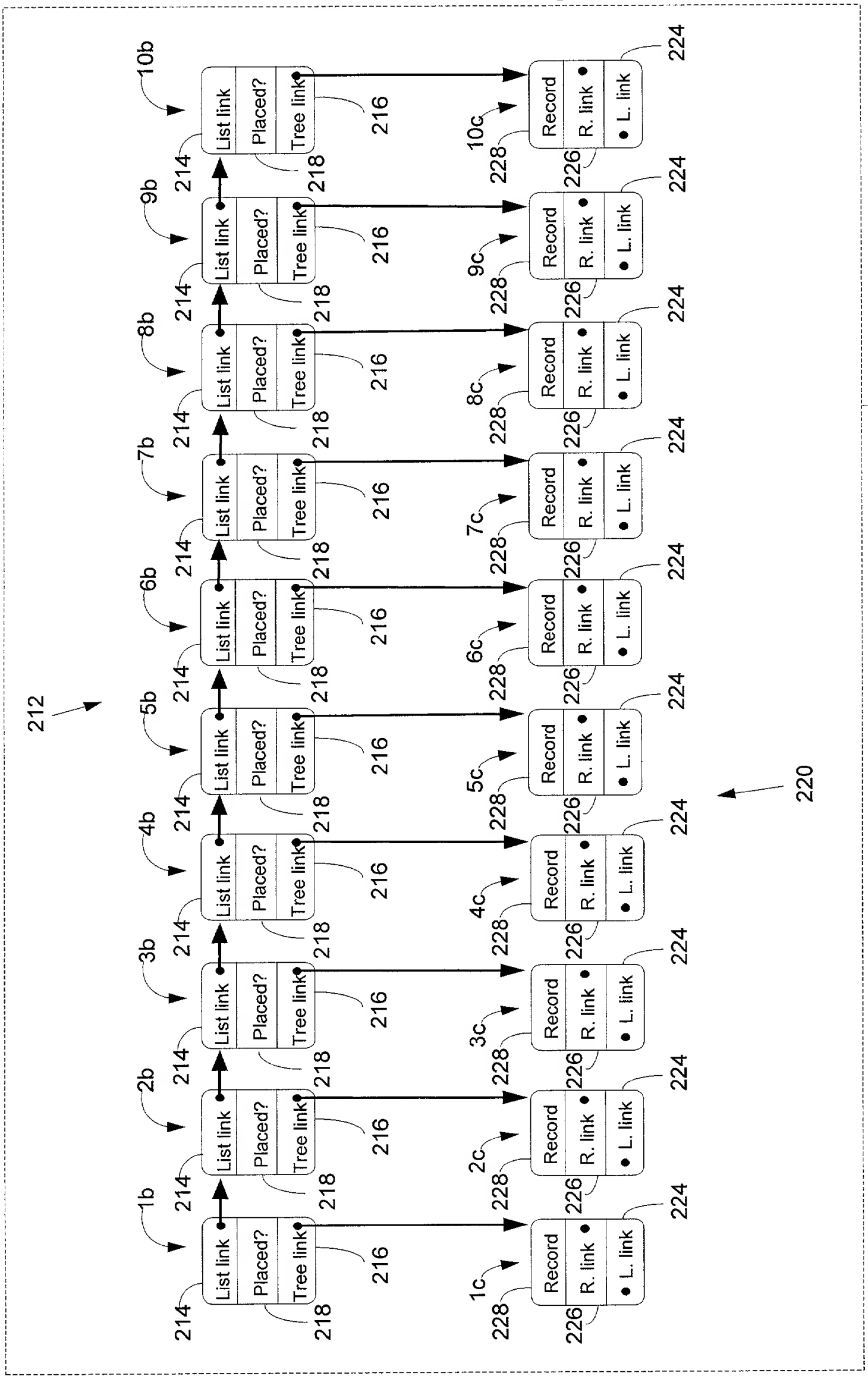

212
220
206
1b
2b
3b
4b
5b
6b
7b
8b
9b
10b
1c
2c
3c
4c
5c
6c
7c
8c
9c
10c
List link
Placed?
Tree link
Record
R. link
L. link
214
216
218
224
226
228

FIG. 4

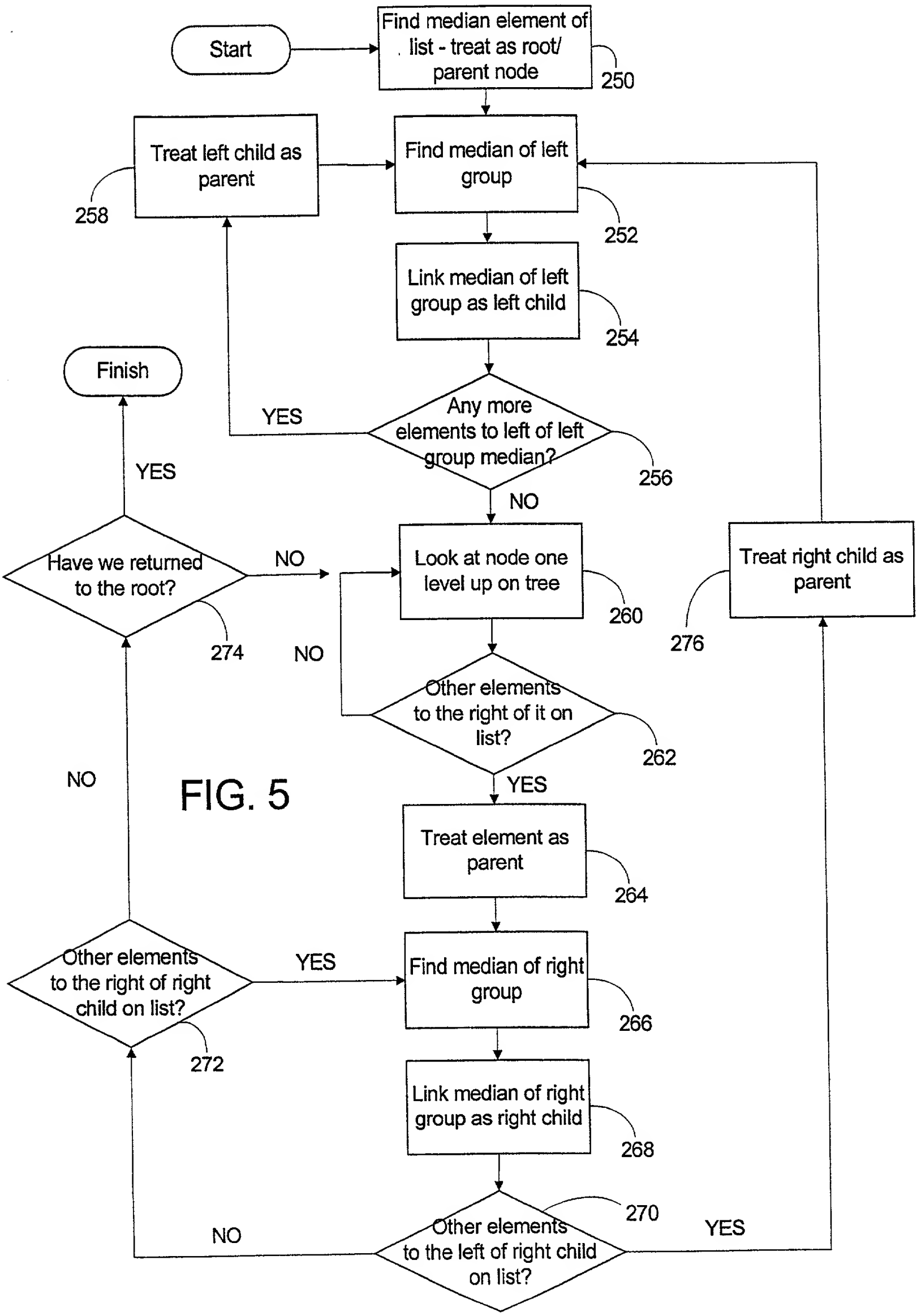

Start
Find median element of list - treat as root/ parent node
250
Treat left child as parent
258
Find median of left group
252
Link median of left group as left child
254
Finish
YES
Any more elements to left of left group median?
256
NO
YES
Have we returned to the root?
NO
274
Look at node one level up on tree
260
Treat right child as parent
276
NO
Other elements to the right of it on list?
262
YES
NO
Treat element as parent
264
Other elements to the right of right child on list?
YES
Find median of right group
266
272
Link median of right group as right child
268
270
NO
Other elements to the left of right child on list?
YES

FIG. 5

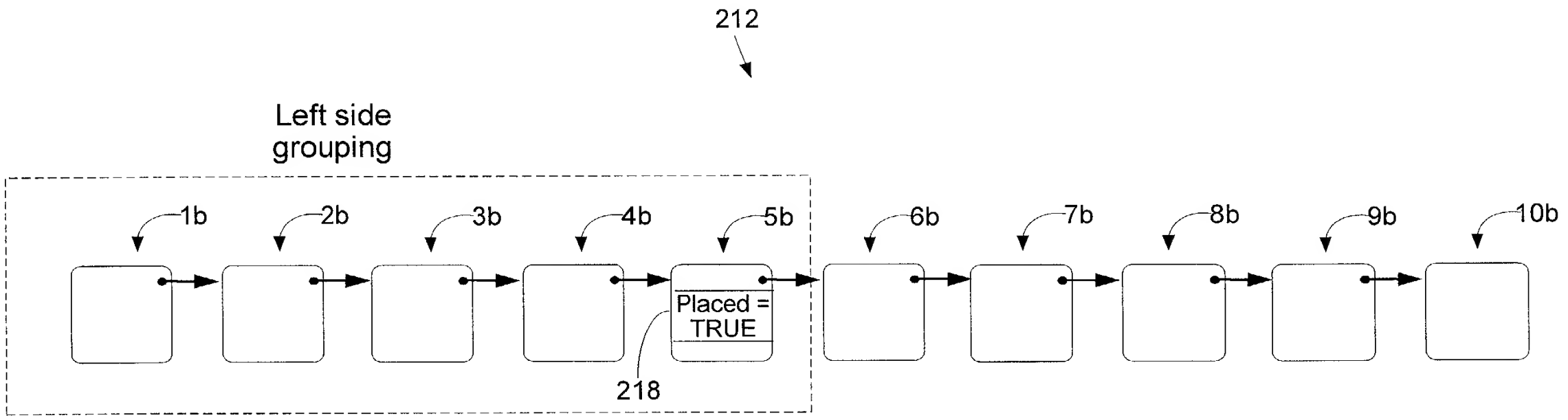

212
Left side grouping
1b
2b
3b
4b
5b
6b
7b
8b
9b
10b
Placed = TRUE
218

FIG. 6

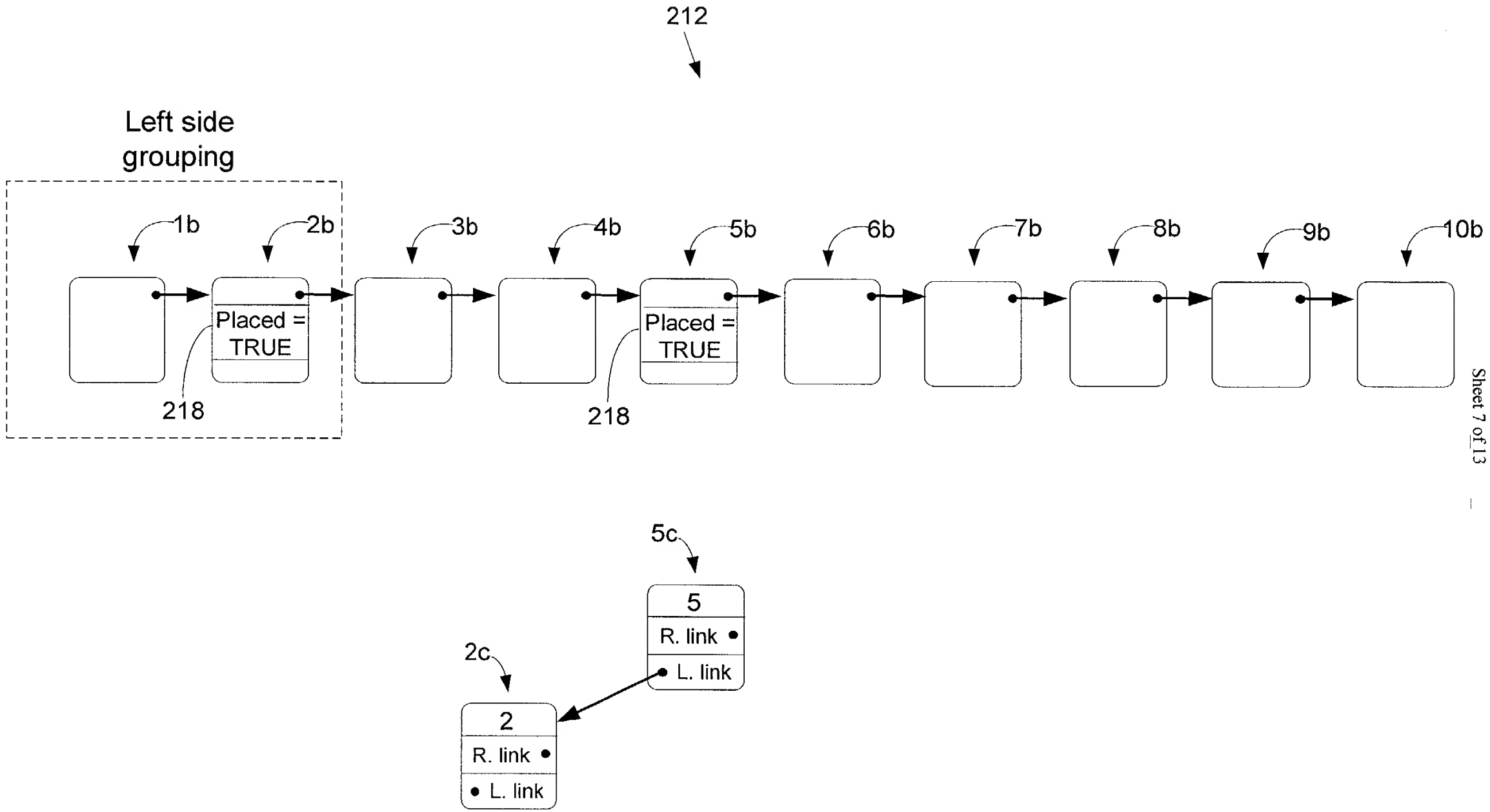

212
Left side grouping
1b
2b
3b
4b
5b
6b
7b
8b
9b
10b
Placed = TRUE
218
Placed = TRUE
218
5c
5
R. link
L. link
2c
2
R. link
L. link

FIG. 7

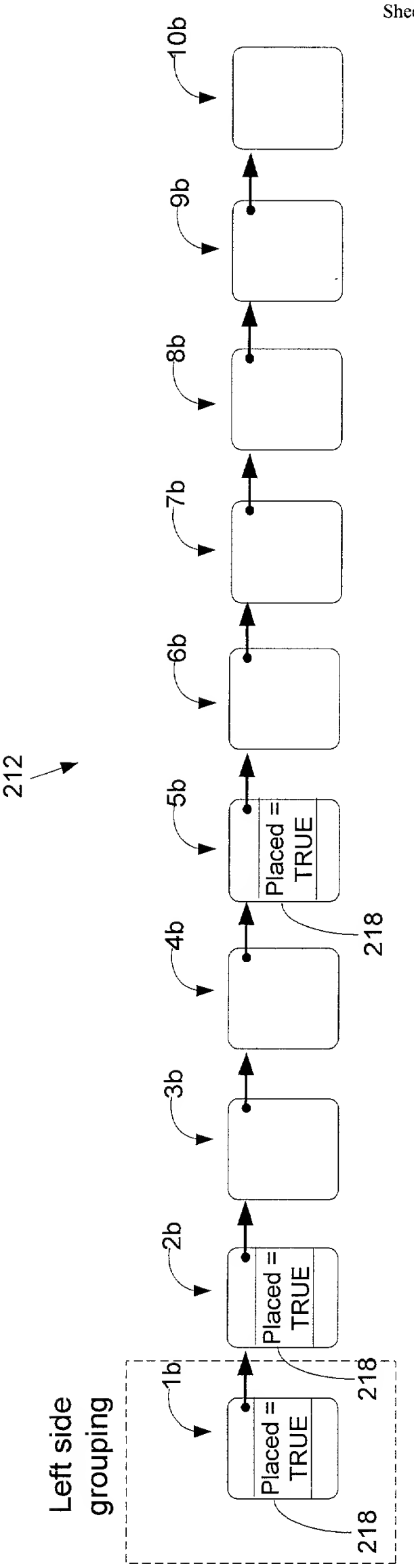
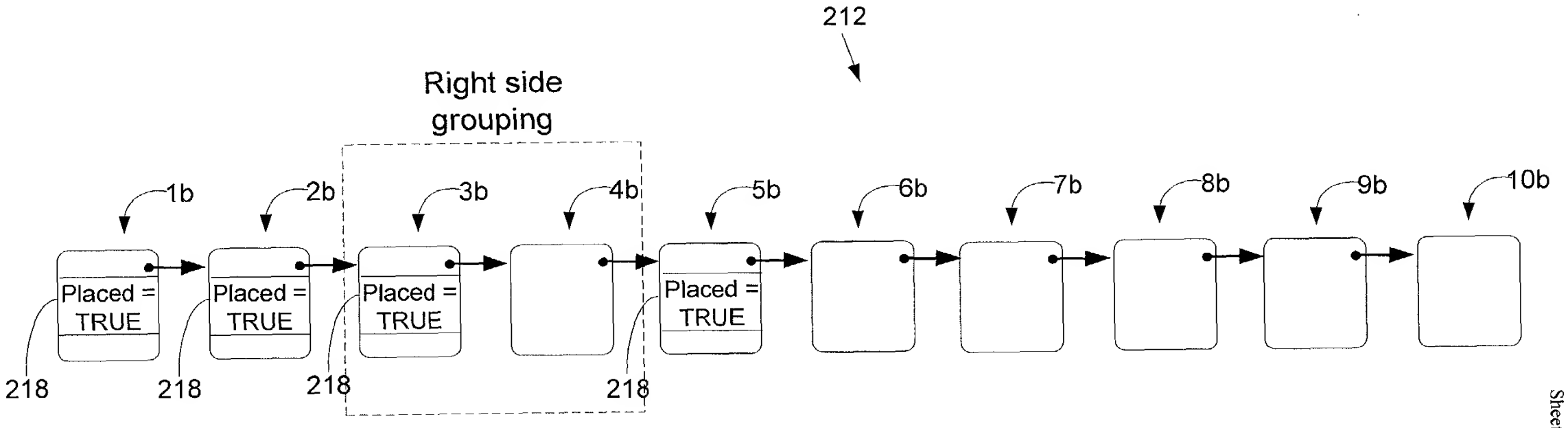

Left side grouping
1b
2b
3b
4b
5b
6b
7b
8b
9b
10b
212
218
Placed = TRUE
R. link
L. link
1c
2c
5c
1
2
5

FIG. 8


212
Right side grouping
1b
2b
3b
4b
5b
6b
7b
8b
9b
10b
Placed = TRUE
Placed = TRUE
Placed = TRUE
Placed = TRUE
218
218
218
218

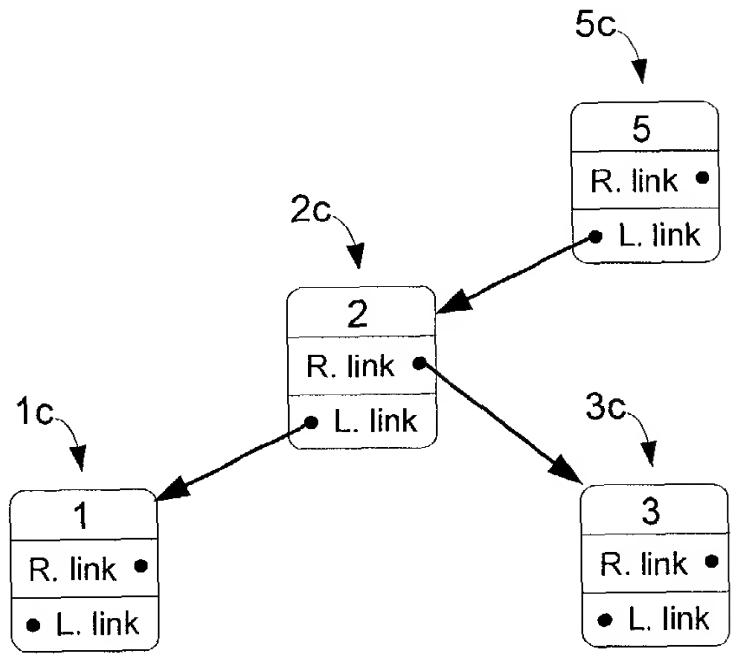

5c
5
R. link
L. link
2c
2
R. link
L. link
1c
1
R. link
L. link
3c
3
R. link
L. link

FIG. 9

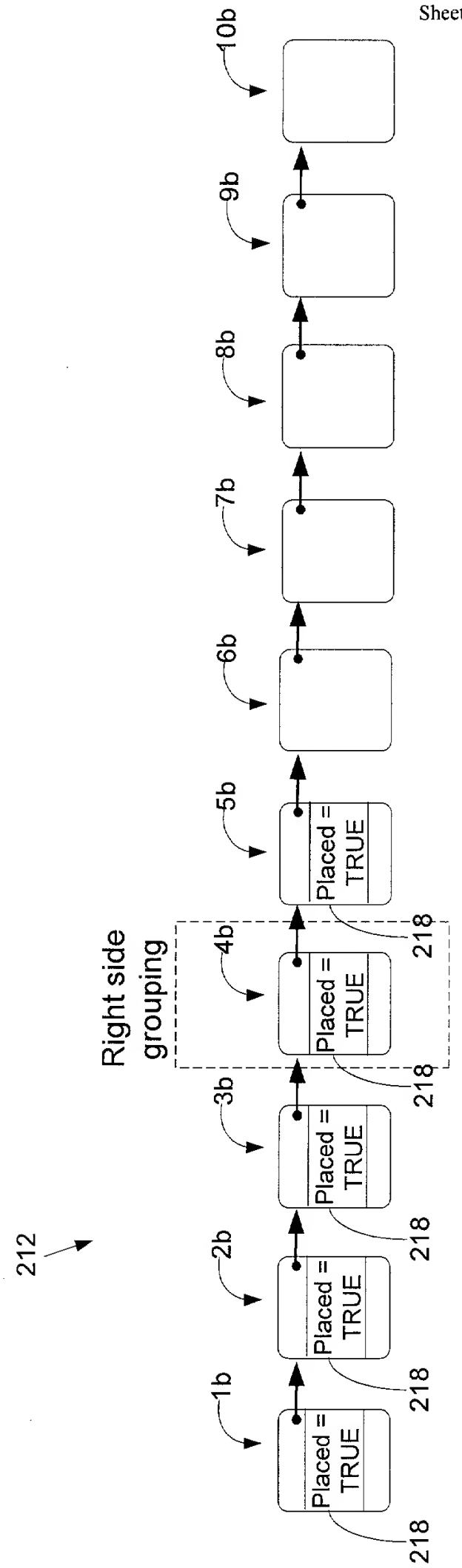
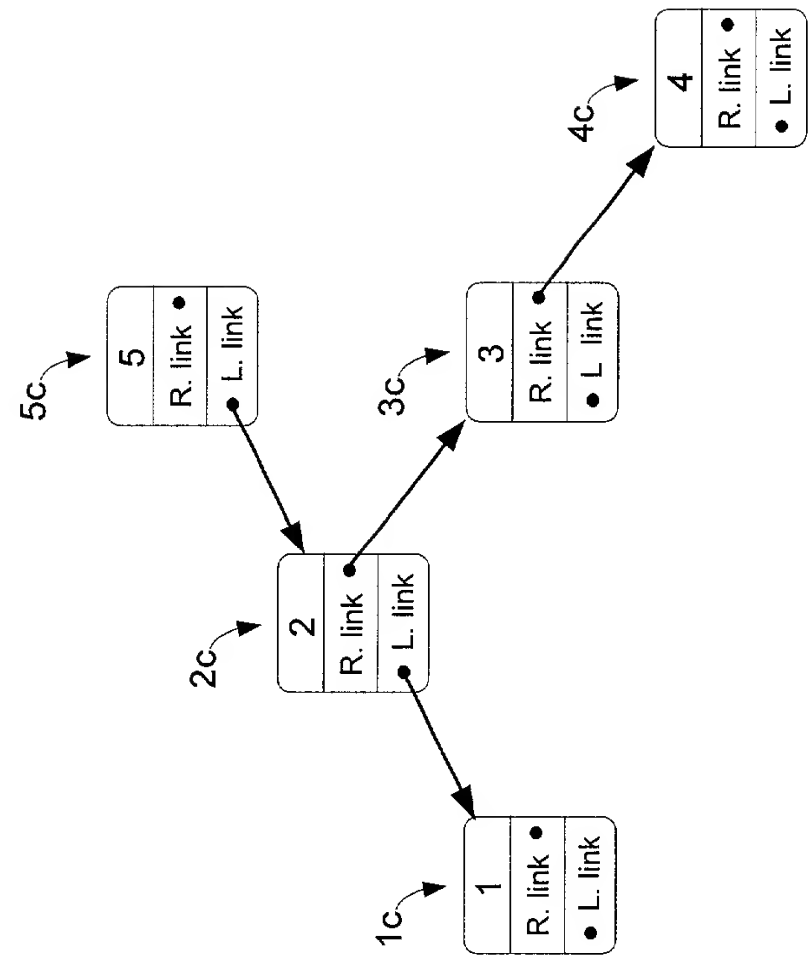

212
Right side grouping
1b
2b
3b
4b
5b
6b
7b
8b
9b
10b
Placed = TRUE
218

FIG. 10


1c
2c
3c
4c
5c
1
2
3
4
5
R. link
L. link

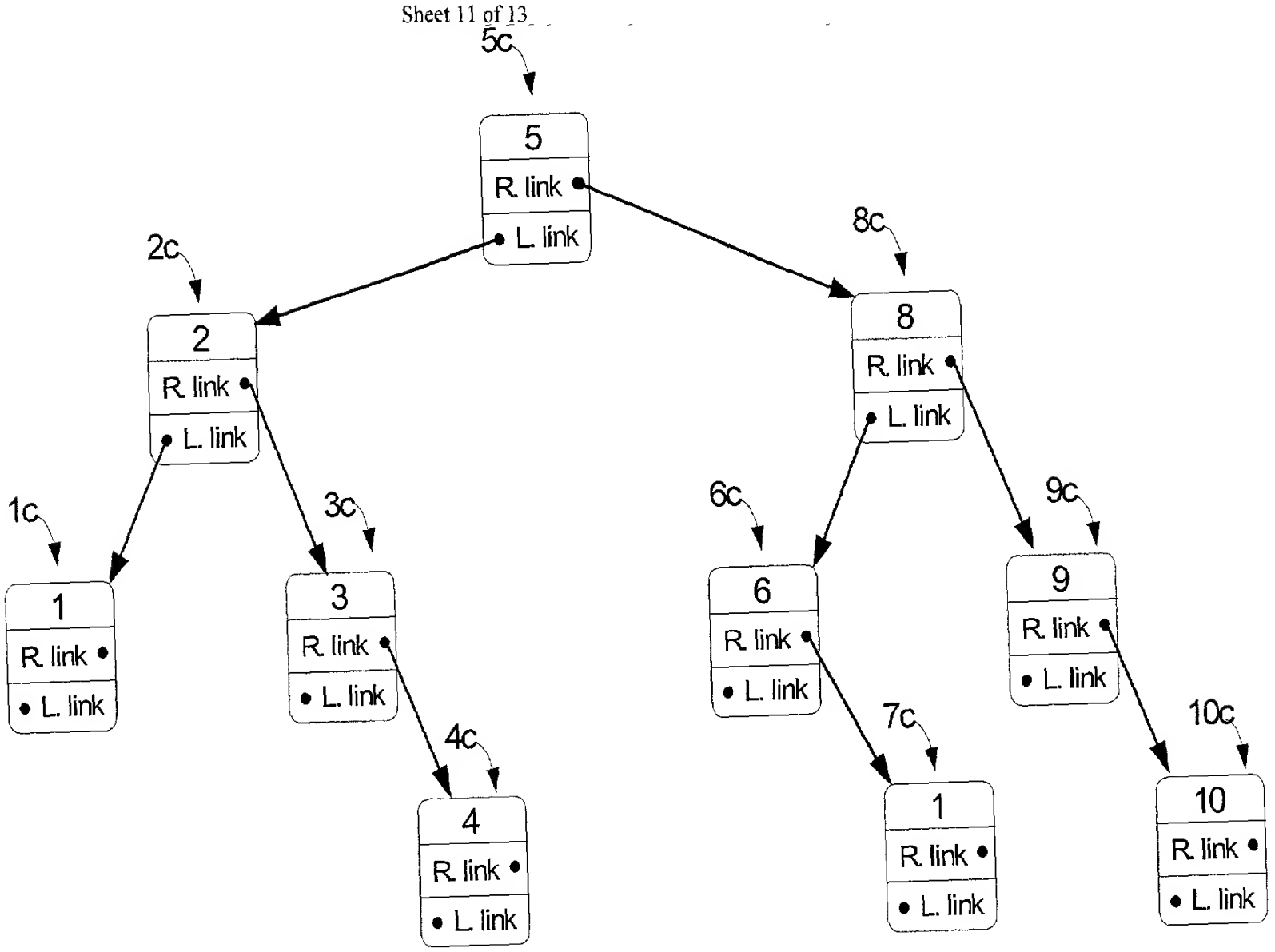

5c
5
R. link
L. link
2c
2
R. link
L. link
8c
8
R. link
L. link
1c
1
R. link
L. link
3c
3
R. link
L. link
6c
6
R. link
L. link
9c
9
R. link
L. link
4c
4
R. link
L. link
7c
1
R. link
L. link
10c
10
R. link
L. link

FIG. 11

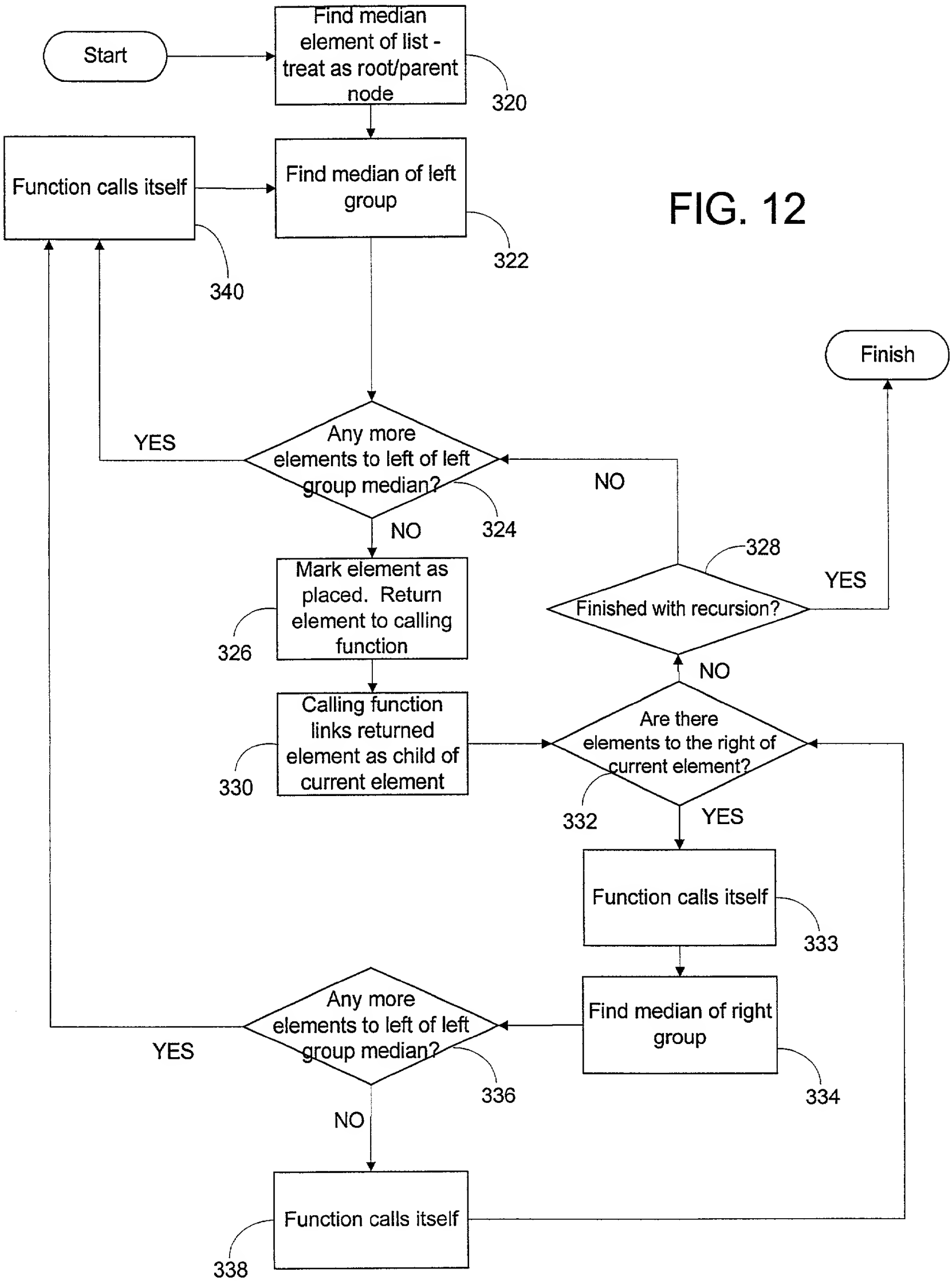

Start
Find median element of list - treat as root/parent node
320
Function calls itself
340
Find median of left group
322
Finish
YES
Any more elements to left of left group median?
NO
324
NO
328
YES
Mark element as placed. Return element to calling function
326
Finished with recursion?
NO
Calling function links returned element as child of current element
330
Are there elements to the right of current element?
332
YES
Function calls itself
333
Find median of right group
334
Any more elements to left of left group median?
YES
336
NO
Function calls itself
338

FIG. 12

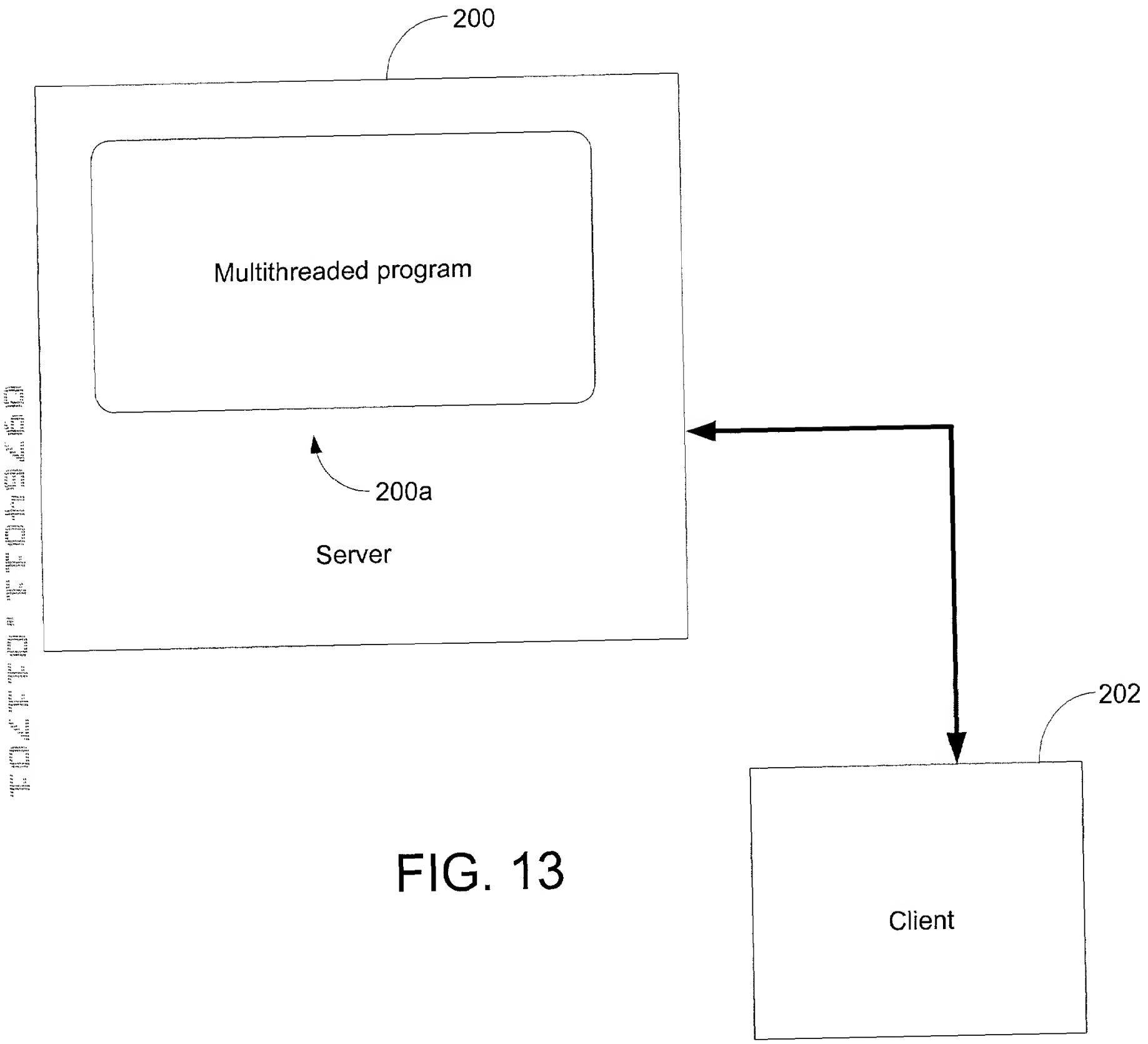


FIG. 13